

maintaining at least one sample population of the biological material in one of the following systems: a cell culture system; a tissue culture system; an organ culture system; and an intact organism;

- exposing the at least one sample population to a candidate optical contrast enhancing agent;

acquiring test data relating to one or more optical properties of the sample population subsequent to exposure to the candidate optical contrast enhancing agent;

comparing the test data acquired to comparison data relating to the one or more optical properties of the sample population, whereby changes in the one or more optical properties reflected in the test data compared to the comparison data represent the optical contrast enhancing activity of said agent in said sample population; and

based on the comparison data, determining if the optical contrast enhancing agent is useful for distinguishing pathological cells or tissue.